This listing of claims will replace all prior version, and listings, of claims in the application:

**Listing of Claims:**

1. (cancelled)

2. (cancelled)

3. (cancelled)

4. (currently amended) The method of claim 741 wherein the information displayed ~~in the SFA log display~~includes homogeneous and inhomogeneous characteristics of the displayed dispersion curve ~~information over selected portions of the first depth interval~~.

5. (currently amended) The method of claim 741 wherein the information displayed ~~in the SFA log display~~includes isotropic and anisotropic characteristics of the displayed dispersion curve ~~information over selected portions of the first depth interval~~.

6. (canceled)

7. (currently amended) The method of claim 746 wherein the displayed~~projected~~ slowness-versus-frequency dispersion curve includes projected slowness-versus-frequency dispersion curve displayed ~~information is represented~~ in one dimension.

8. (currently amended) The method of claim 741 wherein the displayed dispersion curve ~~information~~ includes dipole flexural information which has been projected onto a slowness axis.

9. (currently amended) The method of claim 741 wherein the displayed dispersion curve ~~information~~ includes dipole compressional information which has been projected onto a slowness axis.

10. (currently amended) The method of claim 741 wherein the acquired sonic data~~dispersion curve information~~ corresponds to sonic logging data generated by at least one source selected from the group consisting of: a dipole source, a monopole sources, and a quadrupole source.

11. (currently amended) The method of claim 741 wherein the acquired sonic data~~dispersion curve information~~ corresponds to sonic logging data selected from the group consisting of: fast dipole shear data, slow dipole shear data, low-frequency monopole data, and high frequency monopole data.

12. (currently amended) The method of claim 741 further comprising:

~~generating estimated wave slowness information associated with the selected portions of the first depth interval; and~~

displaying an overlay of ~~the~~ estimated wave slowness information onto the displayed dispersion curve~~SFA log display~~.

13. (original) The method of claim 12 wherein the estimated wave slowness information includes information from the group consisting of: fast estimated shear wave slowness, estimated compressional wave slowness, estimated Stoneley wave slowness.

14. (currently amended) The method of claim 741 wherein the ~~SFA log~~ display further comprises a navigable mechanism configured or designed to link the ~~SFA log~~ display to additional logging information associated with selected depths.

15 (currently amended) The method of claim 14 wherein the ~~SFA log~~ display further includes depth specific sonic logging information relating to a depth selected by the navigable mechanism.

16. (currently amended) The method of claim 14 wherein the navigable mechanism is further configured or designed to automatically scroll through the ~~SFA projection log~~ display in a manner which causes additional depth specific sonic logging information to be automatically displayed.

17. (currently amended) The method of claim 741 wherein the ~~SFA log~~ display further comprises a navigable mechanism configured or designed to link the ~~SFA log~~ display to depth specific~~additional~~ logging information associated with selected depths; and

wherein the ~~SFA log~~ display further includes depth specific display information relating to selected characteristics of the depth specific logging information.

18. (currently amended) The method of claim 17 wherein the depth specific display information is displayed concurrently with the slowness-versus-frequency dispersion curve for each depth~~SFA log information~~.

19. (cancelled)

20. (currently amended) The system of claim 7519 further comprising memory~~wherein the wave slowness characteristics are expressed in terms of wave slowness; and~~

~~wherein the dispersion curve information is expressed in terms of wave slowness~~.

21. (currently amended) The system of claim 7519 wherein the processor comprises a computer~~wave slowness characteristics are expressed in terms of wave velocity; and~~

~~wherein the dispersion curve information is expressed in terms of wave velocity~~.

22. (currently amended) The system of claim 7519 wherein the information displayed includes~~in the SFA log display is further presented in a manner which enables an observer of the SFA log display to visually assess~~ homogeneous and inhomogeneous characteristics of the dispersion curve ~~information over selected portions of the first depth interval~~.

23. (currently amended) The system of claim 7519 wherein the information displayed includes~~in the SFA log display is further presented in a manner which enables an observer of the SFA log display to visually assess~~ isotropic and anisotropic characteristics of the dispersion curve ~~information over selected portions of the first depth interval~~.

24. (currently amended) The system of claim 7519 wherein the displayed dispersion curve ~~information~~ includes projected slowness-versus-frequency dispersion curve ~~information~~.

25. (currently amended) The system of claim 24 wherein the projected slowness-versus-frequency dispersion curve ~~information~~ is displayed~~represented~~ in one dimension.

26. (currently amended) The system of claim 7519 wherein the displayed dispersion curve ~~information~~ includes dipole flexural information which has been projected onto a slowness axis.

27. (currently amended) The system of claim 7519 wherein the displayed dispersion curve ~~information~~ includes dipole compressional information which has been projected onto a slowness axis.

28. (currently amended) The system of claim 7519 further comprising~~wherein the dispersion curve information corresponds to sonic logging data generated by~~ at least one source selected from the group consisting of: a dipole source, a monopole sources, and a quadrupole source.

29. (currently amended) The system of claim 7519 wherein the acquired sonic data~~dispersion curve information~~ corresponds to sonic logging data selected from the group consisting of: fast dipole shear data, slow dipole shear data, low-frequency monopole data, and high frequency monopole data.

30. (currently amended) The system of claim 7519 being further configured or designed to ~~generate, using the slowness-versus-frequency dispersion curve information, estimated wave slowness information associated with the selected portions of the first depth interval;~~

~~the system being further configured or designed to~~ display an overlay of ~~the~~ estimated wave slowness information onto the displayed dispersion curve~~SFA log display;~~

~~wherein the display of the overlay information onto the SFA log display is presented in a manner which enables an observer of the SFA log display to visually assess the relative accuracy of the estimated wave slowness information over selected portions of the first depth interval~~.

31. (withdrawn) The system of claim 30 wherein the estimated wave slowness information includes information from the group consisting of: fast estimated shear wave slowness, estimated compressional wave slowness, estimated Stoneley wave slowness.

32. (currently amended) The system of claim 75~~19~~ further comprising~~wherein the SFA log display further comprises~~ a navigable ~~pointer~~ mechanism configured or designed to link the~~allow a user to navigate within the SFA log~~ display ~~in order~~ to ~~access~~ additional sonic logging information relating to selected depths.

33. (currently amended) The system of claim 32 wherein the ~~SFA log~~ display further includes depth specific sonic logging information relating to a depth selected by the navigable ~~pointer~~ mechanism.

34. (currently amended) The system of claim 32 wherein the navigable ~~pointer~~ mechanism is further configured or designed to automatically scroll through the ~~SFA projection log~~ display in a manner which causes additional depth specific sonic logging information to be automatically displayed.

35. (currently amended) The system of claim 75~~19~~ wherein the ~~SFA log~~ display further comprises a navigable ~~pointer~~ mechanism configured or designed to link the~~allow a user to navigate within the SFA log~~ display to~~in order to access~~ depth specific sonic logging information associated with selected depths; and

wherein the ~~SFA log~~ display further includes depth specific display information relating to selected characteristics of the depth specific sonic logging information.

36. (currently amended) The system of claim 35 wherein the depth specific display information is displayed concurrently with the slowness-versus-frequency dispersion curve for each depth~~SFA log information~~.

37. (withdrawn) A computer program product for facilitating quality control (QC) analysis of sonic logging data associated with an earth formation surrounding a borehole, the computer program product comprising:

a computer usable medium having computer readable code embodied therein, the computer readable code comprising:

computer code for computer code for generating slowness frequency analysis (SFA) log information which includes slowness-versus-frequency dispersion curve information associated with a first depth interval, and

computer code for displaying, using a graphical display format, the SFA log information as an SFA log display, the SFA log display including a first axis corresponding to depth, and a second axis corresponding to wave slowness characteristics;

wherein the information displayed in the SFA log display is presented in a manner which enables an observer of the SFA log display to visually compare relative frequency dispersive characteristics of the dispersion curve information over selected portions of the first depth interval.

38. (withdrawn) The computer program product of claim 37 wherein the wave slowness characteristics are expressed in terms of wave slowness; and

wherein the dispersion curve information is expressed in terms of wave slowness.

39. (withdrawn) The computer program product of claim 37 wherein the wave slowness characteristics are expressed in terms of wave velocity; and

wherein the dispersion curve information is expressed in terms of wave velocity.

40. (withdrawn) The computer program product of claim 37 wherein the information displayed in the SFA log display is further presented in a manner which enables an observer of the SFA log display to visually assess homogeneous and inhomogeneous characteristics of the dispersion curve information over selected portions of the first depth interval.

41. (withdrawn) The computer program product of claim 37 wherein the information displayed in the SFA log display is further presented in a manner which enables an observer of the SFA log display to visually assess isotropic and anisotropic characteristics of the dispersion curve information over selected portions of the first depth interval.

42. (withdrawn) The computer program product of claim 37 wherein the dispersion curve information includes projected slowness-versus-frequency dispersion curve information.

43. (withdrawn) The computer program product of claim 42 wherein the projected slowness-versus-frequency dispersion curve information is represented in one dimension.

44. (withdrawn) The computer program product of claim 37 wherein the dispersion curve information includes dipole flexural information which has been projected onto a slowness axis.

45. (withdrawn) The computer program product of claim 37 wherein the dispersion curve information includes dipole compressional information which has been projected onto a slowness axis.

46. (withdrawn) The computer program product of claim 37 wherein the dispersion curve information corresponds to sonic logging data generated by at least one source selected from the group consisting of: a dipole source, a monopole sources, and a quadrupole source.

47. (withdrawn) The computer program product of claim 37 wherein the dispersion curve information corresponds to sonic logging data selected from the group consisting of: fast dipole shear data, slow dipole shear data, low-frequency monopole data, and high frequency monopole data.

48. (withdrawn) The computer program product of claim 37 further comprising:

computer code for generating, using the slowness-versus-frequency dispersion curve information, estimated wave slowness information associated with the selected portions of the first depth interval; and

computer code for displaying an overlay of the estimated wave slowness information onto the SFA log display;

wherein the display of the overlay information onto the SFA log display is presented in a manner which enables an observer of the SFA log display to visually assess the relative accuracy of the estimated wave slowness information over selected portions of the first depth interval.

49. (withdrawn) The computer program product of claim 48 wherein the estimated wave slowness information includes information from the group consisting of: fast estimated shear wave slowness, estimated compressional wave slowness, estimated Stoneley wave slowness.

50. (withdrawn) The computer program product of claim 37 wherein the SFA log display further comprises a navigable pointer mechanism configured or designed to allow a user to navigate within the SFA log display in order to access additional sonic logging information relating to selected depths.

51. (withdrawn) The computer program product of claim 50 wherein the SFA log display further includes depth specific sonic logging information relating to a depth selected by the navigable pointer mechanism.

52. (withdrawn) The computer program product of claim 50 wherein the navigable pointer mechanism is further configured or designed to automatically scroll through the SFA projection log display in a manner which causes additional depth specific sonic logging information to be automatically displayed.

53. (withdrawn) The computer program product of claim 37 wherein the SFA log display further comprises a navigable pointer mechanism configured or designed to allow a user to navigate within the SFA log display in order to access depth specific sonic logging information associated with selected depths; and

wherein the SFA log display further includes depth specific display information relating to selected characteristics of the depth specific sonic logging information.

54. (withdrawn) The computer program product of claim 53 wherein the depth specific display information is displayed concurrently with the SFA log information.

55. (cancelled)

56. (cancelled)

57. (cancelled)

58. (currently amended) The system of claim 7655 wherein the information displayed includesin the SFA log display is further presented in a manner which enables an observer of the SFA log display to visually assess homogeneous and inhomogeneous characteristics of the dispersion curve information over selected portions of the first depth interval.

59. (currently amended) The system of claim 7655 wherein the information displayed includesin the SFA log display is further presented in a manner which enables an observer of the SFA log display to visually assess isotropic and anisotropic characteristics of the dispersion curve information over selected portions of the first depth interval.

60. (currently amended) The system of claim 7655 further comprising:

means for generating, using the slowness-versus-frequency dispersion curve information, estimated wave slowness information associated with the selected portions of the first depth interval; and

the means for displaying being further configured or designed to display an overlay of the estimated wave slowness information onto the displayed dispersion curveSFA log display;

wherein the display of the overlay information onto the SFA log display is presented in a manner which enables an observer of the SFA log display to visually assess the relative accuracy of the estimated wave slowness information over selected portions of the first depth interval.

61. (currently amended) The system of claim 7655 wherein the displaying meansSFA log display further comprises a navigable pointer means for linking the displaying

means to~~allowing a user to navigate within the SFA log display in order to access~~ depth specific sonic logging information associated with selected depths; and

wherein the ~~SFA log~~ display further includes depth specific display information relating to selected characteristics of the depth specific sonic logging information.

62. (withdrawn) A method for generating a slowness frequency analysis (SFA) projection log of selected properties of an earth formation surrounding a borehole, the SFA projection log being generated using dispersion curve information, the dispersion curve information being characterized in terms of wave slowness versus wave frequency, the method comprising:

projecting a first portion of dispersion curve information for a first selected depth onto a slowness axis of a dispersion curve plot to thereby generate a first portion of projected dispersion curve information; and

generating a first SFA projection log, the first SFA projection log including projected dispersion curve information associated with a first depth interval;

wherein the first portion of projected dispersion curve information is represented in the first SFA projection log at a depth value corresponding to the first selected depth.

63. (withdrawn) The method of claim 62 wherein the first SFA projection log includes a first axis corresponding to depth, and includes a second axis corresponding to wave slowness

64. (withdrawn) The method of claim 62 wherein the SFA projection log comprises projected slowness-versus-frequency dispersion curve information.

65. (withdrawn) The method of claim 62 wherein the dispersion curve information includes dipole flexural information.

66. (withdrawn) The method of claim 62 wherein the dispersion curve information includes dipole compressional information.

67. (withdrawn) The method of claim 62 wherein the dispersion curve information corresponds to sonic logging data generated by at least one source selected from the group consisting of: a dipole source, a monopole sources, and a quadrupole source.

68. (withdrawn) The method of claim 62 wherein the dispersion curve information corresponds to sonic logging data selected from the group consisting of: fast dipole shear data, slow dipole shear data, low-frequency monopole data, and high frequency monopole data.

69. (withdrawn) The method of claim 62 wherein the dispersion curve information is represented in two dimensions; and

wherein the projected dispersion curve information is represented in one dimension.

70. (withdrawn) The method of claim 62 wherein the first SFA projection log is configured or designed to display projected dispersion curve information for a desired depth interval.

71. (withdrawn) The method of claim 62 further comprising:

projecting a second portion of dispersion curve information for a second selected depth onto a slowness axis of a dispersion curve plot to thereby generate a second portion of projected dispersion curve information; and

representing the second portion of projected dispersion curve information in the first SFA projection log at a depth value corresponding to the second selected depth.

72. (withdrawn) The method of claim 62 further comprising:

calculating, using the first portion of dispersion curve information, shear wave slowness estimate information at the first selected depth; and

overlaying the calculated shear wave slowness estimate information onto the first SFA projection log at a location corresponding to the first selected depth.

73. (withdrawn) A slowness frequency analysis (SFA) projection log generated using the method of claim 62.

74. (new) A method for displaying sonic logging data associated with an earth formation surrounding a borehole, the method comprising:

acquiring sonic data at a plurality of depths in a borehole;

processing the acquired sonic data to generate a slowness-versus-frequency dispersion curve for each depth;

displaying the generated slowness-versus-frequency dispersion curve for each depth versus depth.

75. (new) A system for displaying sonic logging data associated with an earth formation surrounding a borehole, the system comprising:

a receiver configured or designed to acquire sonic data at a plurality of depths in a borehole;

a processor configured or designed to process the acquired sonic data to generate a slowness-versus-frequency dispersion curve for each depth;

a display associated with the processor and configured or designed to display the generated slowness-versus-frequency dispersion curve for each depth versus depth.

76. (new) A system for displaying sonic logging data associated with an earth formation surrounding a borehole, the system comprising:

means for acquiring sonic data at a plurality of depths in a borehole;

means for processing the acquired sonic data to generate a slowness-versus-frequency dispersion curve for each depth;

means for displaying associated with the processing means and configured or designed to display the generated slowness-versus-frequency dispersion curve for each depth versus depth.